

Application No.: 10/601,240

REMARKS

All the claims, including claims 1-14, remain in the application, among which claims 1, 2, 4-6, 9, 12, and 13 are amended and claims 3, 7, 8, 10, 11, and 14 remains unchanged. The specification, especially the "DETAILED DESCRIPTION OF PREFERRED EMBODIMENT" section has been carefully revised to correct typographic and grammatic errors. Marked and non-marked versions of the specification and claims are attached herewith as appendixes.

Drawing objection

The drawings are objected to by the examiner as failing to comply with 37 CFR 1.84(p)(5) because they include reference character "61" not mentioned in the description. The specification has been amended to add the reference character "61", which refers to a through hole formed in the tensioner 6 for the extension of a rivet 63 to rotatably support the tensioner 6 on the housing 1. Such a description is obvious from the drawings and thus includes no new matter. Applicant believes the objection is now corrected.

Specification Objection

The disclosure is objected to by the examiner because of lacking of explanation of "rubber 41B". This is corrected in the amended specification, in which the rubber is described to be arranged in slots (which are indicated by reference character 41A in the drawings) of the slotted shaft 41, but not visible in the drawings, to provide a friction with the floss for securely holding the floss. The applicant believes no new matter has been entered in the amended disclosure.

Claim Objections

Claims 1, 2, 11, and 13 are objected to because of informalities. All the informalities mentioned by the examiner are corrected as can be observed in the above listed claim amendments. The applicant believes the objection to the claims for informalities is now overcome.

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Claim Rejections under 35 U.S.C. 112

Claims 4, 5, and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Particularly, regarding claims 4 and 5, the function of "rubber" is not adequately explained. Claim 4 has been correct to remove "rubber" from the claim language and thus it is believed the rejection is overcome. Regarding claim 9, the tensioner ejecting the floss has not been described in the disclosure. Claim 9 has been amended to replace "eject the floss" with "allow the floss to be removed", which is consistent with the detailed disclosure. This amendment removes the 35 USC 112 rejection of Claim 9.

Claim Rejections under 35 U.S.C. 102 and 35 U.S.C. 103

Claims 1-3, 7, 8, and 10-14 are rejected either under 35 U.S.C. 102(b), 102(e) or 103(a), as being unpatentable over or anticipated by references cited by the examiner, including US 6,497,237, US 6,874,509, US 6,363,949, and US 6,089,241. However, the examiner also indicated that claim 6 is not anticipated by or unpatentable over the reference cited and is allowable if rewritten to overcome the objection to Claim 1 and in independent form including all of the limitations of the base claim and any intervening claims.

Claim 6 features a passage defined in the tensioner for the extension of the floss. This feature has been incorporated in the claim language of the amended Claim 1 and the applicant believes the amended Claim 1 is now patentably distinguishable over all the references cited and is thus allowable. Similar amendment is also done on the claim language of Claim 12, which is another independent claim of the application. The remaining claims, whether amended or not, are all dependent from either Claim 1 or Claim 12 and are thus allowable.

In view of the above amendments and remarks, the subject application is believed to be in a condition for allowance and an action to such effect is earnestly solicited.



Respectfully submitted,

Chia Ching CHEN

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Figure 5 shows the floss routes through a tension controller;

Figure 5A shows details thereof;

Figure 5B is an enlarged view thereof;

Figure 6 shows the floss routes through a thread hole of a tensioner;

5 Figure 7 is an illustration showing the floss is well supported on a bracket of the floss dispenser;

Figure 7A is a top view thereof;

Figure 8 is an illustration showing the movement of the tensioner of the floss dispenser;

10 Figure 8A shows the floss is locked by the tensioner;

Figure 9 shows the floss is released by the tensioner for replacing new floss;

Figure 9A shows a top view of Figure 9 and

Figure 10 shows used floss is cut off by a cutter.

15 **Detailed Description of Preferred Embodiment**

Referring to Figure 1, an exploded view of a floss dispenser ~~is~~ according to the present invention is shown. The floss dispenser generally includes a housing 1 on which a detachable cover 2 is attached. The floss dispenser further includes a floss bobbin 3, a ratchet 4 and stopper 5, a tensioner 6 and a cutter 7.

20 The housing 1 defines a receiving chamber 11 in which a bobbin shaft 12 is mounted. The receiving chamber 11 further defines a feeding hole 1A and a side feeding hole 1B (see Figures 4 and 4A). The housing 1 further includes a cutter cell 13 adjacent to the receiving chamber 11 in a middle portion thereof. A cutting knife 7 is assembled into the cutter cell 13 by means of a screw 72 through a hole 71 of the cutting knife 7. The
25 housing 1 further includes a ratchet socket 14 in which the ratchet 4 is installed. The ratchet 4 is moveably assembled in the ratchet socket 14 by a screw 43 and other

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assembling kits which will be described in detail later. Adjacent to the ratchet socket 14, a stopper cell 16 in ~~communicating communication~~ with the ratchet socket 14 is provided. The stopper 5 is mounted ~~therein in the stopper cell 16~~ by means of a screw 52 through a mount 51 thereof. The stopper 5 extends into teeth of the ratchet 4 such that the ratchet 4
5 can rotate along clockwise.

Adjacent to the ratchet socket 14, a tensioner bracket 17 is provided. The tensioner bracket 17 defines a feeding hole 1C and a shaft hole 17A for assembling the tensioner 6 therein. The tensioner 6 is mounted into the tensioner bracket 17 by means of a rivet 63. Finally, at the opposite end of the receiving chamber 11, a floss fork 10 is provided. The
10 floss fork 10 defines a guiding slot 10A along its outer surface, and a pair of notches 10B at ends of the fork for supporting the floss therebetween. A post 10C is provided adjacent to an inner beam of the fork 10.

Referring to Figure 2, after the floss bobbin 3 is disposed within the receiving chamber 11, the cover 2 is attached so as to enclose the bobbin 3 therein. ~~As shown in Figure 1, a~~
15 A detachable threaded 31 (not shown) is selectively provided for inserting into the feeding hole 1A. The threader 31 includes a passage 31A in through which the floss extends therethrough.

As mentioned above, the ratchet 4 is assembled into the ratchet socket 14 by means of the assembling kit which is configured by a slotted shaft 41 and a shaft 42. A rubber
20 member ~~41B (not shown)~~ is selectively arranged within slots of the slotted shaft 41. By this arrangement, the ratchet 4 can be assembled into a supporting hole 15 of the ratchet socket 14 by means of the screw 43.

Referring now to Figures 3, 4 and 5, a floss route along the dispenser ~~are is~~ shown in details. After the floss bobbin 3 is rotationally assembled into the receiving chamber
25 11, ~~The the~~ floss is firstly ~~passing extended~~ through the passage 31A of the threader 31. Then the floss passes further through the side feeding hole 1B, the feeding hole 1C of the

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tensioner bracket 17 and is thereafter further extended through ~~out from a~~ passage 62 of the tensioner 6.

Firstly, a threading device 8 is used to move the floss 3A through the passage 31A of the threader 31. Then the floss 3A is routed through the feeding hole 1A and comes out therefrom to the one side of the housing 1. The floss 3A is further ~~threading~~ threaded through the side feeding hole 1B and ~~through the feeding hole 1C~~ of the tensioner bracket 17, ~~such as~~ shown in Figures 4A and 4B. Then the tensioner 6 is slightly moved such that the floss 3A can pass through the passage 62 of the tensioner 6. By this arrangement, the tensioner 6 applies a certain tension to the floss 3A.

Then, the floss 3A routes through the guiding slot 10A of the floss fork 10, ~~such as~~ shown in Figures 7 and 7A. The floss 3A then routes along the notches 10B of the fork, and is finally anchored at the post 10C. The floss 3A further routes to the slotted shaft 41A of the ratchet 4 and extends through the slots 41A of the slotted shaft 41 to be held thereby. ~~As Preferably,~~ the slotted shaft 41A is inserted with a rubber 41B, which imposes a friction to the floss 3A, the floss 3A is can then be securely held therein. As a result, the floss 3A completes its routing and holds with proper tension.

When the floss 3A completes its routes and a user would like to use it to floss, the user may slightly press on the tensioner 6 such that the floss 3A is tensioned. Then the user may rotate the ratchet 4 so as to further tension the floss 3A by the arrangement between the ratchet 4 and the stopper 5. Finally, the user can use the floss 3A spanning between the floss fork 10 for flossing. Specially, the tension of the floss 3C can be adjusted anytime by the ratchet 4.

After a section of floss 3A is used, the used floss 3A can be easily replaced, ~~such as~~ shown in Figures 9 and 9A. The floss 3A braced between the fork 10 can be easily released from the notches 10B by a further push back of the tensioner 6 so as to release the tension applied to the floss 3A. As a result, the floss 3A can be easily released from the

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notches 10B. Then the used floss 3A can be cut off by the knife 7, ~~such as~~ shown in Figure 10. ~~While a~~ new section of floss 3A can be re-routed to the fork 10 according to the procedures described above. After the floss bobbin 3 is exhausted, a new floss bobbin 3 can be refilled and the user may start a cycle of flossing.

5 The floss dispenser made according to the present invention can be featured with at least the following advantages.

1. The floss dispenser made in accordance with the present invention features the advantages from both the floss box and the toothpick with floss holder. The user can easily ~~to~~-use it to floss. In addition, the floss can be easily replaced while the floss can be
10 economically controlled.

2. The floss dispenser made in accordance with the present invention further features a simplified configuration readily for handling. By the provision of the ratchet and tensioner, the tension of the floss can be accurately controlled thereby preventing the break of the floss during the flossing.

15 From the above description, it can be easily appreciated that the tension of the floss is controlled by both the ratchet after the floss routes through the post, and by the tensioner right before the floss reach the floss fork. ~~By this~~ This two stage controlling of the floss, especially the tensioner, provides a dynamic control of the tension of the floss. As such, the user may easily perform the flossing process.

20 It should be note that the specification relating to the above embodiment should be construed as exemplary rather than as limitation of the present invention, with many variations and modifications being readily attainable by a person of skill in the art without departing from the spirit or scope thereof as defined by the appended claims and their legal equivalents.

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